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Monthly Wholesale Trade

Sales and Inventories

August 1999

BW/99-8

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MONTHLY WHOLESALE TRADE: SALES AND INVENTORIES AUGUST 1999

Sales. August 1999 sales of merchant wholesalers, after adjustment for seasonal variations and trading-day differences but not for price changes, were \$229.8 billion, up 1.1 percent (+/- 0.6%) from the revised July level and were 9.6 percent (+/- 1.3%) above the August 1998 level. The July preliminary estimate was revised downward \$0.01 billion. Among durable goods, sales of hardware, plumbing and heating equipment increased 2.4 percent from last month and professional and commercial equipment and supplies grew 2.0 percent. August sales of nondurable goods increased 1.4 percent (+/-0.8%) from July and were up 10.9 percent (+/-1.3%) from last year. Compared to last month, sales of petroleum and petroleum products increased 3.6 percent and beer, wine, and distilled alcoholic beverages rose 2.5 percent.

Inventories. Total inventories of merchant wholesalers, after adjustment for seasonal variations but not for price changes, were \$294.7 billion at the end of August, up 0.3 percent (+/- 0.3%) from the revised July level and were 4.6 percent (+/- 1.2%) above August 1998. The July preliminary estimate

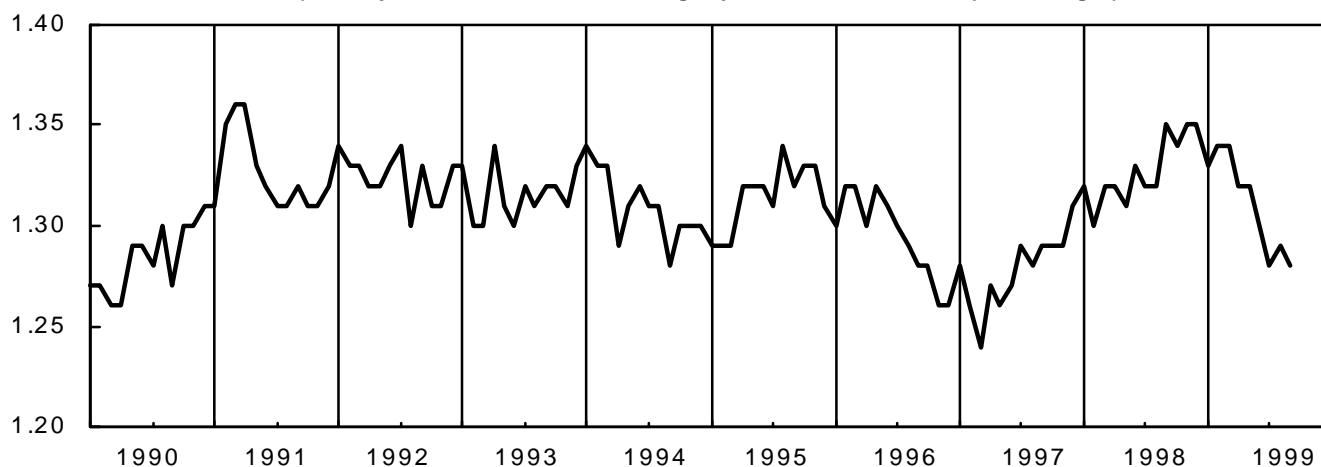
was revised upward \$0.05 billion. End-of-month inventories of durable goods decreased 0.4 percent (+/-0.3%) from last month but were 3.9 percent (+/-1.3%) above August 1998. Compared to last month, inventories of hardware, plumbing and heating equipment decreased 1.7 percent and professional and commercial equipment and supplies fell 1.1 percent. End-of-month inventories of nondurable goods increased 1.6 percent (+/-0.4%) from July and were up 5.8 percent (+/-2.3 %) from last year. Inventories of farm-product raw materials were up 8.6 percent from last month and groceries and related products increased 1.9 percent.

Inventories/Sales Ratio. The August inventories/sales ratio for merchant wholesalers, based on seasonally adjusted data, was 1.28. The August 1998 ratio was 1.34.

Data in this report are based on a sample and, therefore, are subject to sampling and nonsampling variability. A discussion of the reliability of the data and general survey methodology appears in BW/98-A Current Business Reports.

Monthly Inventories/Sales Ratios of Merchant Wholesalers: 1990 to 1999

(Data adjusted for seasonal and trading-day differences, but not for price changes)



Monthly Wholesale Trade for September is scheduled to be released November 9, 1999, at 10:00 a.m.

Address inquiries concerning this report to Service Sector Statistics Division, U.S. Census Bureau, Washington, DC 20233, or call Scott Scheleur, 301-457-2779 or 301-457-2764. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

This report is available on day of issue through the Department of Commerce's online Economic Bulletin Board (202-482-1986). The data are also available on the Internet - <http://www.census.gov/svsd/www/mwts.html>.

Table 1. Estimated Monthly Sales, Inventories, and Inventories/Sales Ratios of Merchant Wholesalers: 1999 and 1998

[In millions of dollars]

SIC ¹ code	Kind of Business	Sales						Inventories						Inventories/sales		
		Monthly			Percent change			Monthly			Percent change			ratios		
		Aug. 1999 (p)	Jul. 1999 (r)	Aug. 1998 (r)	Aug./ Jul.	Jul./ Jun.	Aug. 99 Aug. 98	Aug. 1999 (p)	Jul. 1999 (r)	Aug. 1998 (r)	Aug./ Jul.	Jul./ Jun.	Aug. 99 Aug. 98	Aug. 1999 (p)	Jul. 1999 (r)	Aug. 1998 (r)
Adjusted ²																
	U.S. Total	229,811	227,293	209,621	1.1	-0.3	9.6	294,725	293,982	281,803	0.3	0.9	4.6	1.28	1.29	1.34
50	Durable	122,951	121,932	113,303	0.8	0.1	8.5	191,493	192,346	184,247	-0.4	0.8	3.9	1.56	1.58	1.63
501	Automotive	19,191	19,141	17,228	0.3	0.9	11.4	28,139	28,082	25,441	0.2	1.5	10.6	1.47	1.47	1.48
502	Furniture	4,316	4,276	4,054	0.9	3.7	6.5	6,105	6,185	6,023	-1.3	1.6	1.4	1.41	1.45	1.49
503	Lumber	8,653	8,838	7,703	-2.1	0.1	12.3	8,869	8,897	8,528	-0.3	2.3	4.0	1.02	1.01	1.11
504	Prof. equip.	23,166	22,705	21,560	2.0	0.0	7.4	25,118	25,386	27,023	-1.1	-0.4	-7.0	1.08	1.12	1.25
505	Metals	7,574	7,686	7,959	-1.5	0.8	-4.8	12,702	12,803	13,595	-0.8	-1.0	-6.6	1.68	1.67	1.71
506	Electrical	19,691	19,512	17,454	0.9	0.4	12.8	27,471	27,451	25,663	0.1	3.5	7.0	1.40	1.41	1.47
507	Hardware	6,902	6,737	6,434	2.4	-0.8	7.3	13,155	13,378	13,337	-1.7	0.6	-1.4	1.91	1.99	2.07
508	Machinery	20,835	20,478	20,000	1.7	-0.7	4.2	52,117	52,264	47,659	-0.3	0.4	9.4	2.50	2.55	2.38
509	Other Durable	12,623	12,559	10,911	0.5	-1.1	15.7	17,817	17,900	16,978	-0.5	-1.0	4.9	1.41	1.43	1.56
51	Nondurable	106,860	105,361	96,318	1.4	-0.7	10.9	103,232	101,636	97,556	1.6	1.1	5.8	0.97	0.96	1.01
511	Paper	8,357	8,200	7,524	1.9	-0.6	11.1	10,046	9,922	9,398	1.2	0.4	6.9	1.20	1.21	1.25
512	Drugs	12,353	12,266	10,356	0.7	-0.9	19.3	17,422	17,407	14,296	0.1	1.1	21.9	1.41	1.42	1.38
513	Apparel	7,661	7,506	7,042	2.1	-3.4	8.8	11,521	11,550	12,819	-0.3	0.3	-10.1	1.50	1.54	1.82
514	Groceries	30,247	29,963	28,918	0.9	0.9	4.6	18,483	18,137	17,216	1.9	2.5	7.4	0.61	0.61	0.60
515	Farm-products	8,199	8,419	8,640	-2.6	-5.6	-5.1	11,701	10,778	10,211	8.6	0.1	14.6	1.43	1.28	1.18
516	Chemicals	4,459	4,440	4,539	0.4	-0.7	-1.8	4,738	4,803	4,811	-1.4	0.7	-1.5	1.06	1.08	1.06
517	Petroleum	13,224	12,767	9,528	3.6	3.4	38.8	4,025	4,144	4,192	-2.9	0.7	-4.0	0.30	0.32	0.44
518	Alcohol	5,583	5,446	5,042	2.5	-1.6	10.7	6,540	6,533	5,973	0.1	1.5	9.5	1.17	1.20	1.18
519	Other Nondur.	16,777	16,354	14,729	2.6	-2.2	13.9	18,756	18,362	18,640	2.1	1.3	0.6	1.12	1.12	1.27
Not Adjusted														Sales to date		
														1999	1998	
	U.S. Total	233,803	225,105	208,102	3.9	-5.2	12.4	289,657	292,362	277,278	-0.9	1.5	4.5	1,766,714	1,671,152	
50	Durable	126,019	121,470	113,002	3.7	-5.6	11.5	191,990	194,647	184,761	-1.4	1.6	3.9	947,352	898,201	
501	Automotive	19,191	19,256	16,694	-0.3	-4.6	15.0	27,464	27,857	24,805	-1.4	1.9	10.7	149,018	133,718	
502	Furniture	4,480	4,169	4,062	7.5	0.3	10.3	6,331	6,346	6,246	-0.2	2.7	1.4	32,064	31,350	
503	Lumber	9,648	9,554	8,365	1.0	-3.6	15.3	8,984	9,137	8,613	-1.7	1.7	4.3	68,400	60,488	
504	Prof. equip.	23,259	22,274	21,366	4.4	-7.8	8.9	25,018	25,691	26,942	-2.6	1.4	-7.1	174,961	167,730	
505	Metals	7,725	7,471	7,911	3.4	-7.0	-2.4	12,689	12,918	13,581	-1.8	-0.5	-6.6	61,925	65,430	
506	Electrical	20,617	19,473	17,733	5.9	-3.2	16.3	28,213	28,247	26,356	-0.1	4.4	7.0	149,332	138,093	
507	Hardware	7,254	7,168	6,524	1.2	-4.9	11.2	13,155	13,445	13,350	-2.2	-0.3	-1.5	54,283	51,364	
508	Machinery	20,856	20,048	19,360	4.0	-8.4	7.7	51,909	52,891	47,516	-1.9	1.1	9.2	162,839	161,914	
509	Other Durable	12,989	12,057	10,987	7.7	-4.9	18.2	18,227	18,115	17,352	0.6	1.0	5.0	94,530	88,114	
51	Nondurable	107,784	103,635	95,100	4.0	-4.8	13.3	97,667	97,715	92,517	0.0	1.5	5.6	819,362	772,951	
511	Paper	8,833	7,815	7,690	13.0	-5.6	14.9	9,885	9,922	9,219	-0.4	2.3	7.2	63,846	58,701	
512	Drugs	12,242	11,837	9,776	3.4	-4.2	25.2	16,917	17,216	13,881	-1.7	3.2	21.9	94,241	79,883	
513	Apparel	8,450	7,799	7,542	8.3	0.1	12.0	11,751	11,885	13,075	-1.1	1.6	-10.1	60,944	57,598	
514	Groceries	30,761	30,622	29,294	0.5	0.6	5.0	18,206	18,046	16,941	0.9	3.2	7.5	236,717	228,428	
515	Farm-products	7,486	7,341	7,681	2.0	-13.6	-2.5	8,214	7,922	7,178	3.7	-4.8	14.4	64,932	70,075	
516	Chemicals	4,615	4,418	4,553	4.5	-9.5	1.4	4,738	4,832	4,816	-1.9	2.0	-1.6	35,400	37,073	
517	Petroleum	13,462	12,461	9,414	8.0	2.5	43.0	3,961	4,049	4,142	-2.2	2.8	-4.4	90,970	80,550	
518	Alcohol	5,879	5,593	5,113	5.1	-9.0	15.0	6,533	6,638	5,967	-1.6	1.6	9.5	42,517	39,117	
519	Other Nondur.	16,056	15,749	14,037	1.9	-14.1	14.4	17,462	17,205	17,298	1.5	-0.1	0.9	129,795	121,526	

p Preliminary estimate. r Revised.

1 For a full description of the SIC codes shown above, see the "1987 Standard Industrial Classification Manual" or the Current Business Reports "Annual Benchmark Report for Wholesale Trade" publication.

2 Data adjusted for seasonal variations and, in the case of sales, also for trading-day differences. See Table 3 for seasonal adjustment factors used.

Table 2. Coefficients of Variation and Standard Error for Sales and Inventories

SIC code	Kind of Business	Coefficients of variation for level (x 100)				Standard error for trend				Coefficients of variation for level (x 100)		Standard error for trend
		Preliminary estimates		Final estimates		Ratio of two consecutive months		Year-to-year estimates		Cumulative sales estimates		Current year cumulative
		Sales	Inv.	Sales	Inv.	Sales	Inv.	Sales	Inv.	Current year	Previous year	to previous year cumulative
		Median	Median	Median	Median	Median	Median	Median	Median			
	U.S. Total	1.2	1.5	1.2	1.5	0.4	0.2	0.8	0.7	1.3	1.1	0.7
50	Durable	1.8	2.5	1.8	2.5	0.6	0.3	1.1	0.9	1.8	2.2	0.9
501	Automotive	4.5	4.8	4.4	4.8	1.0	0.8	2.3	3.1	4.5	5.1	2.0
502	Furniture	6.4	7.9	6.4	7.9	2.2	1.0	2.7	2.4	6.0	6.5	1.7
503	Lumber	5.6	5.3	5.4	5.3	1.3	0.8	2.1	2.7	5.7	5.7	1.4
504	Prof. equip.	6.5	7.0	6.4	7.0	1.3	0.6	3.3	2.1	6.6	5.5	2.9
505	Metals	5.1	10.4	5.0	10.1	1.1	0.7	1.6	2.5	4.9	4.9	0.9
506	E lectrical	5.5	7.2	5.7	7.2	1.4	0.6	2.3	2.3	5.6	6.4	1.9
507	Hardware	5.5	6.6	5.5	6.6	1.2	0.6	1.6	2.1	5.7	5.6	1.0
508	Machinery	6.1	6.7	6.2	6.6	2.1	0.5	2.4	1.7	5.9	6.7	1.9
509	Other Durable	6.3	9.5	6.4	9.4	1.4	0.9	2.1	2.6	6.3	6.1	1.6
51	Nondurable	2.0	2.4	2.0	2.3	0.6	0.4	0.9	1.4	2.0	1.8	0.6
511	Paper	5.0	5.1	5.0	5.1	1.0	0.6	1.8	1.6	5.7	5.2	1.0
512	Drugs	6.3	4.8	6.3	4.7	1.0	0.6	2.2	1.6	6.2	6.7	1.2
513	Apparel	5.5	7.2	5.2	7.4	2.1	1.1	3.2	2.4	4.8	4.5	1.8
514	Groceries	3.0	4.9	3.0	4.9	0.6	0.6	1.1	1.4	3.0	3.1	0.8
515	Farm-products	6.8	8.6	6.8	8.6	2.3	1.5	2.8	4.4	6.6	5.7	2.2
516	Chemicals	5.4	6.3	5.7	6.3	1.4	0.8	1.8	2.3	5.3	5.7	0.9
517	Petroleum	6.9	13.8	6.9	13.8	1.0	1.3	1.7	1.9	6.8	6.8	1.3
518	Alcohol	6.2	8.6	6.2	8.6	1.5	1.3	1.7	2.2	6.1	6.3	1.4
519	Other Nondur.	6.5	8.0	6.5	7.7	1.9	1.2	4.1	4.2	6.9	5.5	2.7

Note: The median measures of variability are based on the most recent 12 months of data.

Sample Design and Reliability of Data

There are two types of errors possible in an estimate based on a sample survey: sampling and nonsampling.

Sampling errors occur because observations are made on a sample, not on the entire population, and different samples could have led to different estimates. Standard errors and coefficients of variation, as calculated for this report, are measures of sampling variation. The margin of sampling error, as used on page 1, gives a range about the estimate which is a 90% confidence interval. If, for example, the trend estimate is up 1.2% and the standard error is 0.9%, then the margin of sampling error is $\pm 1.65 \times 0.9\%$ or $\pm 1.5\%$, and the 90% confidence interval is -0.3% to +2.7%. If the interval contains 0, it cannot be stated with certainty whether there was an increase or decrease. For monthly level, the coefficient of variation (CV) is given. The resulting confidence interval is the estimated value $\pm 1.65 \times CV \times$ (the estimated value).

Nonsampling errors are usually attributed to many possible sources: (1) coverage error - failure to accurately represent all population units in the sample,

(2) inability to obtain information about all sample cases, (3) response errors, possibly due to definitional difficulties or misreporting, (4) mistakes in recording or coding the data obtained, and (5) other errors of collection or processing, or in imputing for missing or inconsistent data. Coverage error has an effect on the accuracy of estimates for this survey to the extent that the administrative records system, which forms the basis of our survey universe frame, does not contain all legal businesses. A major source of nonsampling error in the published estimates is due to the need to impute data for nonrespondents and for late and inconsistent reports. For all kinds of businesses combined, imputed data amount to about 31 percent of the total monthly wholesale sales estimates and 32 percent of the total monthly wholesale inventories estimates.

Nonsampling errors also occur in complete censuses. Although no direct measures of these errors have been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data to minimize their influence.

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Table 3. Seasonal Adjustment Factors for Sales and Inventories of Merchant Wholesalers

SIC code	Kind of Business	Sales						Inventories					
		1999					1998	1999					1998
		Sep.	Aug.r	Jul.r	Jun.	May	Aug.r	Sep.	Aug.r	Jul.r	Jun.	May	Aug.r
	U.S. Total¹	1.025	1.013	0.990	1.043	0.991	0.992	0.981	0.981	0.993	0.985	0.994	0.981
50	Durable	1.045	1.023	0.995	1.058	0.976	0.996	0.996	1.000	1.012	1.001	1.009	1.001
501	Automotive	0.974	1.000	1.006	1.064	1.002	0.969	0.982	0.976	0.992	0.988	1.006	0.975
502	Furniture	1.066	1.038	0.975	1.008	0.969	1.002	1.039	1.037	1.026	1.016	0.996	1.037
503	Lumber	1.063	1.115	1.081	1.123	1.018	1.086	0.999	1.013	1.027	1.033	1.028	1.010
504	Prof. equip.	1.079	1.004	0.981	1.064	0.935	0.991	0.987	0.996	1.012	0.994	0.996	0.997
505	Metals	1.020	1.020	0.972	1.054	0.984	0.994	0.986	0.999	1.009	1.003	1.004	0.999
506	Electrical	1.087	1.047	0.998	1.035	0.950	1.016	1.004	1.027	1.029	1.020	1.006	1.027
507	Hardware	1.061	1.051	1.064	1.110	0.985	1.014	0.995	1.000	1.005	1.014	1.024	1.001
508	Machinery	0.983	1.001	0.979	1.061	1.014	0.968	0.983	0.996	1.012	1.005	1.018	0.997
509	Other Durable	1.093	1.029	0.960	0.998	0.949	1.007	1.030	1.023	1.012	0.992	0.993	1.022
51	Nondurable	1.002	1.006	0.984	1.028	1.009	0.989	0.953	0.945	0.958	0.956	0.965	0.944
511	Paper	1.046	1.057	0.953	1.004	0.935	1.022	0.982	0.984	1.000	0.981	0.979	0.981
512	Drugs	1.017	0.991	0.965	0.998	0.944	0.944	0.987	0.971	0.989	0.969	0.955	0.971
513	Apparel	1.133	1.103	1.039	1.002	0.833	1.071	1.007	1.020	1.029	1.016	0.975	1.020
514	Groceries	0.992	1.017	1.022	1.025	1.032	1.013	1.007	0.985	0.995	0.988	0.994	0.984
515	Farm-products	0.977	0.913	0.872	0.953	0.954	0.889	0.718	0.702	0.735	0.773	0.830	0.703
516	Chemicals	0.992	1.035	0.995	1.092	1.019	1.003	0.980	1.000	1.006	0.993	1.014	1.001
517	Petroleum	0.974	1.018	0.976	0.985	0.991	0.988	1.010	0.984	0.977	0.957	1.000	0.988
518	Alcohol	1.017	1.053	1.027	1.110	1.020	1.014	1.051	0.999	1.016	1.015	0.967	0.999
519	Other Nondur.	0.973	0.957	0.963	1.097	1.178	0.953	0.929	0.931	0.937	0.950	0.995	0.928

r Revised.

1 Adjusted sales and inventories data shown in Table 1 are obtained by dividing the unadjusted data by the adjustment factors shown above for the corresponding group. Adjusted data for the totals are obtained by adding the durable and nondurable goods. Seasonal factors shown for the totals will provide an approximation of the adjusted estimates, but may show small differences from the published data.

Note: The seasonal factors shown have been computed based on monthly estimates through the current month preliminary estimates.

